

# A new species of the genus *Sacodes* LECONTE from Taiwan (Coleoptera: Scirtidae)

H. YOSHITOMI

## Abstract

A new species of *Sacodes* LECONTE (Coleoptera: Scirtidae), *S. elongata*, is described from Taiwan.

**Key words:** Coleoptera, Scirtidae, *Sacodes*, taxonomy, new species, Taiwan.

## Introduction

Three species of the genus *Sacodes* LECONTE are known from Taiwan (YOSHITOMI & SATÔ 1996, 2004). A fourth species, described herein, was unexpectedly discovered on this island. New faunistic data for *Sacodes humeralis* (YOSHITOMI & SATÔ 1996), a key to the Taiwanese species of *Sacodes*, and a world checklist of the species of *Sacodes* with ZooBank LSIDs are also presented.

## Material and methods

General dissection methods follow YOSHITOMI (2005). The male genitalia were mounted on a slide with Canada balsam, and pinned under the specimen.

Abbreviations:

EUMJ	Ehime University Museum, Matsuyama, Japan
TARI	Taiwan Agricultural Research Institute, Taiwan
LNCC	locality name written in Chinese characters
EL	length of elytra at suture
EW	maximum width of elytra
PL	mesal length of pronotum
PW	maximum width of pronotum
TL	total length (PL+EL)

## *Sacodes elongata* sp.n. (Figs. 1, 5–12)

TYPE MATERIAL: **Holotype** ♂ (EUMJ, type no. 1253): “[Taiwan] Dahanshan (Mt.) / Alt. ca. 1,500m / Chunri Township / Pingtung Country / -[LNCC]- / 11-12. IV, 2012 / J. Yamasako leg.”.

DESCRIPTION: Male (Fig. 1): Body oblong-oval, moderately convex dorsally, shining, closely covered with pale brown setae. Coloration of elytra almost black; pronotum yellowish-brown, but mesal part widely infuscate; frons, antennae and legs brown.

Head flat dorsally, minutely granulate; clypeus with straight front margin; distance between eyes about 2.3 times as long as the maximum eye's diameter. Eyes large, prominent. Antennae long and slender, slightly serrate in antennomeres IV–IX; approximate ratio of antennomeres 2.5 :

1.5 : 1 : 3.75 : 3.25 : 3.25 : 3.25 : 3.25 : 3 : 3.5. Pronotum semicircular, minutely granulate, slightly depressed laterally; PW/PL 1.20. Scutellum equilateral-triangular, closely punctate. Elytra oval, broadest at the middle, slightly convex dorsally; humeral parts not projecting; EL/EW 1.43; EL/PL 3.65; EW/PW 2.13; TL/EW 1.82. Legs relatively long. Tergite VI lacking apodeme in anterior margin; tergite VII simply trapezoidal.

Caudal margin of sternite VII straight. Tergite VIII moderately sclerotized, trapezoidal, closely covered with minute setae and spines in apical part, with a pair of long apodemes; sternite VIII slightly sclerotized, Y-shaped; tergite IX slightly sclerotized, bearing minute spines in apical and apico-lateral parts, with a pair of long apodemes; sternite IX slightly sclerotized, oblong, bearing short setae in apical part. Tegmen oblong, moderately sclerotized, widest at proximal 1/4; parameres short, obtuse at apices, punctate in dorsal surface. Penis very long, well sclerotized, about 1.4 times as long as tegmen; dorsal piece long, its basal half oval, its apical half elongate, closely punctate in apical part, obtuse at apex; ventral piece shorter than dorsal piece, its basal part projecting antero-laterally, its apical part connected with dorsal piece.

MEASUREMENTS: Male (n = 1): TL 4.65 mm; PW 1.20 mm; PL 1.00 mm; EL 3.65 mm; EW 2.55 mm.

TAXONOMIC REMARKS: Judging from the shape of the male genitalia, this species is related to *Sacodes okinawana* YOSHITOMI, 2005 known from Okinawa-jima and Ishigaki-jima of the Ryukyus, and differs from it by the following characteristics: mesal part of pronotum infuscate (evenly yellowish orange in *S. okinawana*); legs brown (at least femur and tarsi yellow in *S. okinawana*); scutellum black (fuscous yellow in *S. okinawana*).

BIOLOGICAL NOTES: The type specimen was collected from a natural forest by sweeping.

ETYMOLOGY: The name of the species refers to the elongate penis.

***Sacodes humeralis* (YOSHITOMI & SATÔ 1996)**  
(Fig. 4)

ADDITIONAL MATERIAL: 1 ♀ (TARI): "Taiwan: Taipei Yangmingshan (-[LNCC]-) 23. II. 2008, leg. M.-H. Tsou"; 1 ♀ (TARI): "4543 20091514 TM04 Taiwan: Kaohsiung: Tengchih. Leg. C.-T. Yao"; 1 ♂ (TARI): "Taiwan: Taipei Fushan 27. III. 2008, leg. H.-J. Chen"; 1 ♀ (TARI): "Taiwan: Hsinchu Lupi (-[LNCC]-) 18. IV. 2009, leg. M.-H. Tsou"; 1 ♀ (TARI): "Taiwan: Taichung Pilu (-[LNCC]-) 18. VI. 2010, leg. C.-F. Lee"; 2 ♂♂, 2 ♀♀ (EUMJ): "[Taiwan] Xinanshan Alt. ca. 1,600m Taoyuan Township Kaosing Country (-[LNCC]-) 22-30. III. 2012 J. Yamasako leg.".

### Discussion

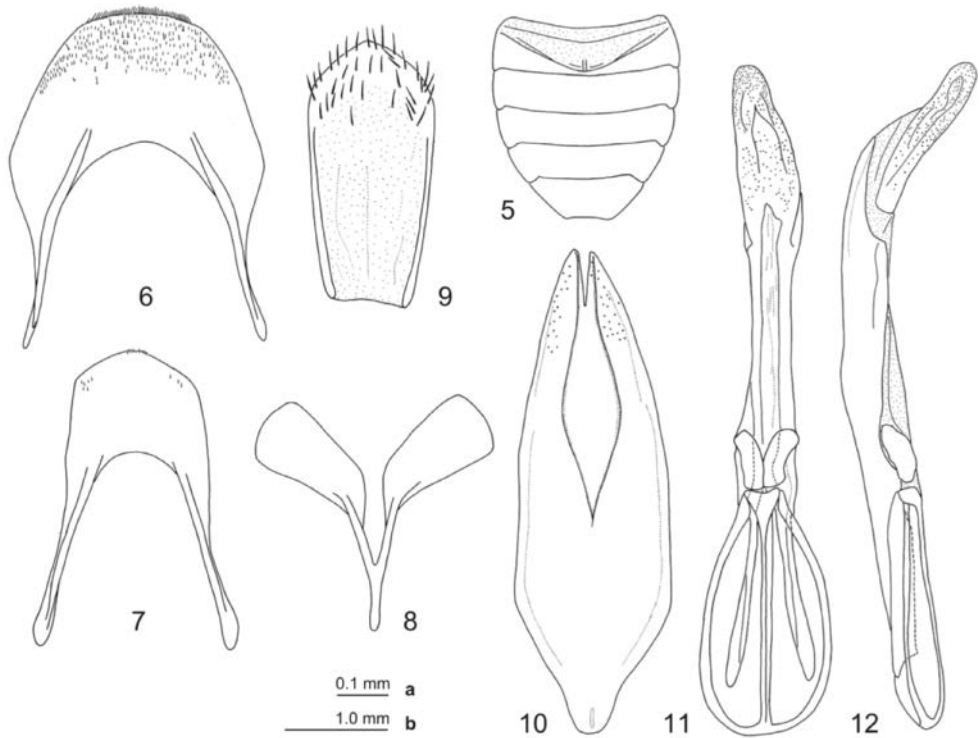
Eighteen species of the genus *Sacodes* are known from the northern Hemisphere (YOSHITOMI 2000, 2005; YOSHITOMI & SATÔ 1996, 2004; KLAUSNITZER 2011), but most of these are distributed in the Temperate Zone (8 spp. from Japan, 3 spp. from North America, 4 spp. from Taiwan, and 1 sp. each from Europe, Korea, Russia and Vietnam).

The discovery of the new species described herein is rather unexpected. However, two undetermined females (1 in EUMJ, 1 in TARI), might also represent a new species. These two females are somewhat similar to *S. elongata* in having a larger body and brown legs, but the coloration of the pronotum is different.

The specimens of Taiwanese *Sacodes* were collected in spring: March to May (YOSHITOMI & SATÔ 1996, 2004). This time, however, I examined a specimen of *S. humeralis* collected in February (see above). In the Ryukyus, Japan, *S. amamiensis* and *S. okinawana* were also collected in winter: January and February (YOSHITOMI 2005). Therefore, it is important that further research of the *Sacodes* species should be conducted during winter in Taiwan.



Figs. 1–4: Habitus, 1) *Sacodes elongata*, male, holotype; 2) *Sacodes leei*, male, holotype (after YOSHITOMI & SATÔ 2004); 3) *Sacodes taiwanensis*, male, paratype; 4) *Sacodes humeralis*, male. Scales = 1.0 mm.



Figs. 5–12. *Sacodes elongata*, male, holotype; 5) sternites; 6) tergite VIII; 7) sternite VIII; 8) tergite IX; 9) sternite IX; 10) tegmen; 11) penis in dorsal aspect; 12) penis in lateral aspect. Scale a: Figs. 6–12; scale b: Fig. 5.

### Key to the species of *Sacodes* from Taiwan

- 1 Elytra black with a pair of yellowish-orange markings on humeral angles (Fig. 4) ..... *humeralis*
- Elytra almost evenly black ..... 2
- 2 Legs almost black (Fig. 2) ..... *leei*
- Legs yellowish orange to brown ..... 3
- 3 Scutellum yellowish-orange; pronotum evenly yellowish-orange (Fig. 3) ..... *taiwanensis*
- Scutellum black; mesal part of pronotum widely infuscate (Fig. 1) ..... *elongata*

### Checklist of the species of the genus *Sacodes* with ZooBank LSIDs

*amamiensis* (SATŌ, 1966) (urn:lsid:zoobank.org:act:98EB33C5-CF7C-4D6F-B7DD-4C4C089FD412)

*elongata* YOSHITOMI, 2012 (urn:lsid:zoobank.org:act:01F02322-2AAC-4E29-9618-4E7FCFCE2219)

*dux* (LEWIS, 1895) (urn:lsid:zoobank.org:act:D9EE1BF1-CB23-4351-B112-21133BD5D6D9)

*flavicollis* (KIESENWETTER, 1859) (urn:lsid:zoobank.org:act:618CF441-BA7B-44ED-84AB-33A3A838026A)

*flavomarginalis* KLAUSNITZER, 2011 (urn:lsid:zoobank.org:act:C31D29F9-675C-4885-A0AD-5414A8583767)

*fuscipennis* (GUÉRIN-MÉNEVILLE, 1843) (urn:lsid:zoobank.org:act:E73ADD2D-36F7-4781-8243-5914E839DB7B)

*humeralis* (YOSHITOMI & SATÔ, 1996) (urn:lsid:zoobank.org:act:C83DC6E2-D55A-4434-ACD1-68B469AA58F0)  
*kaszabi* (KLAUSNITZER, 1973) (urn:lsid:zoobank.org:act:31035ADB-4AE0-4E7C-8456-A892EF078BAF)  
*leei* YOSHITOMI & SATÔ, 2004 (urn:lsid:zoobank.org:act:4AA16A60-B1BB-4E81-A159-FC473B7BE246)  
*mamaevi* (KLAUSNITZER, 1977) (urn:lsid:zoobank.org:act:0C698E94-23E2-4C48-B6B5-9E847323A71E)  
*minima* (KLAUSNITZER, 1973) (urn:lsid:zoobank.org:act:3B7304A7-C0E7-46E4-9BC0-8F12B7ACD31B)  
*nakanei* (KLAUSNITZER, 1973) (urn:lsid:zoobank.org:act:D3A92EE8-4C0B-4F2A-868D-0D56D430FB68)  
*okinawana* YOSHITOMI, 2005 (urn:lsid:zoobank.org:act:95C8FA5B-428E-49E7-B26C-8054B016616F)  
*protecta* HAROLD, 1881 (urn:lsid:zoobank.org:act:BF7E6EDB-DC5D-4553-8DD8-F4FFF5B92023)  
*pulchella* (GUÉRIN-MÉNEVILLE, 1843) (urn:lsid:zoobank.org:act:51DB27C6-07D4-4AC9-B49C-4BD238A2C0A8)  
*shibatai* YOSHITOMI, 2008 (urn:lsid:zoobank.org:act:B031723E-4F50-4307-A791-3BCE9E0CC97B)  
*taiwanensis* (YOSHITOMI & SATÔ, 1996) (urn:lsid:zoobank.org:act:78858C48-DBEC-4628-BD31-8544BAA9B36B)  
*thoracica* (GUÉRIN-MÉNEVILLE, 1843) (urn:lsid:zoobank.org:act:CC4ED4D7-72AC-4CC7-91F1-718688B1123E)  
*tsushimensis* YOSHITOMI, 1997 (urn:lsid:zoobank.org:act:7FF1922C-43EB-4838-AD08-1CECAC43F6AB)

### Acknowledgements

I wish to express my hearty thanks to Dr. Junsuke Yamasako (EUMJ) and Dr. Chi-Feng Lee (TARI) for the opportunity to examine the interesting material, and Mr. Dennis Murphy (the United Graduate School of Agricultural Sciences, Ehime University) for his critical reading of the manuscript.

### References

- KLAUSNITZER, B. 2011: Eine neue Art der Gattung *Sacodes* LeConte 1854 aus Vietnam (Coleoptera: Scirtidae). – Entomofauna 32, 20: 301–307.
- YOSHITOMI, H. 2000: Taxonomic notes on the genera *Sacodes* and *Elodes* (Coleoptera, Scirtidae). – Japanese Journal of systematic Entomology 6: 79–82.
- YOSHITOMI, H. 2005: Systematic revision of the family Scirtidae of Japan, with phylogeny, morphology and bionomics (Insecta: Coleoptera, Scirtoidea). – Japanese Journal of systematic Entomology, Monographic series (3), 212 pp.
- YOSHITOMI, H. & SATÔ, M. 1996: Two new species of the genus *Flavohelodes* (Coleoptera, Scirtidae) from Taiwan. – Elytra 24 (2): 303–309.
- YOSHITOMI, H. & SATÔ, M. 2004: Scirtidae of the Oriental Regions, Part 7. A new species of the genus *Sacodes* (Coleoptera, Scirtidae) from Taiwan. – Japanese Journal of systematic Entomology 10: 211–214.

Dr. Hiroyuki YOSHITOMI

Ehime University Museum, Bunkyo-chô 3, Matsuyama 790-8577 Japan (hymushi@agr.ehime-u.ac.jp)